

CLAIMS

1. Sampling method that can be used in an automatic analysis apparatus, said automatic apparatus included a needle (5) for taking a sample to be analyzed, said  
5 sample being removed from a receptacle (30), said needle being fixed on a rocker mobile about an axis (X2) forming an angle with said sampling needle, characterized in that it comprises the following steps:
  - rotating the sampling needle about the axis (X2);
  - driving the sampling needle in translation relative to the rocker by driving  
10 means comprising a carriage (13) mobile in translation relative to the rocker and also a belt (15) stretched radially between a drive pulley (16) and a loose pulley (17), one of these pulleys serving as a pivot on the rocker, the carriage being fixed on the belt.
2. Method according to claim 1, characterized in that, to remove the sample, the  
15 sampling needle is moved such that it points downwards.
3. Method according to claim 1, characterized in that, to remove the sample, the sampling needle is moved such that it points upwards.
- 20 4. Method according to claim 3, characterized in that if the receptacle is stopped with a bung (31), the receptacle is directed such that the bung points downwards, then the bung is pierced with a needle by inserting it at least to the depth of said bung.
5. Method according to one of claims 1 to 4, characterized in that, to remove the  
25 sample, the sampling needle is moved such that it forms an angle with the vertical.
6. Method according to one of claims 1 to 5, characterized in that, after having removed a sample, the needle is moved to a distribution position (P2, P3) where the needle points downwards above a vessel (32, 33).
- 30 7. Sampling device usable in an automatic analysis apparatus, said device including a needle (5) for taking a sample to be analyzed, said sample being removed from a receptacle (30) and said sampling needle being fixed on a rocker mobile about an axis (X2) forming an angle with said sampling needle, means (13-18) for driving the

sampling needle in translation relative to the rocker, said driving means comprising a carriage (13) mobile in translation relative to the rocker and a belt (15) stretched radially between a drive pulley (16) and a loose pulley (17), one of these pulleys serving as a pivot on the rocker, the carriage being fixed on the belt.

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8. Device according to claim 7, characterized in that the sampling needle is mounted by locking on the carriage.

9. Device according to claim 7 or 8, characterized in that the carriage is mobile in translation on a guide (14).

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10. Device according to one of claims 7 to 9, characterized in that the drive pulley serves as a pivot.

11. Device according to claims 7 to 10, characterized in that the angle formed by the axis and the needle is an approximately right angle.

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12. Device according to claims 7 to 11, characterized in that the sampling needle is mounted mobile in translation relative to the rocker describing a movement which moves it away from or towards the axis.

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13. Device according to claims 7 to 12, characterized in that the sampling needle is mounted mobile in translation through a body (7) fixed relative to the rocker.

14. Device according to claim 13, characterized in that it includes means (9) for fixing the body by locking on the rocker.

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15. Device according to claim 13 or 14, characterized in that the sampling needle and the body form part of a double needle (3) also comprising a pre-piercing needle (6), the sampling needle being mounted sliding in the pre-piercing needle.

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16. Device according to claim 15, characterized in that the pre-piercing needle is mounted fixed on the body.

17. Device according to one of claims 7 to 16, characterized in that at least one  
needle (5, 6) includes a rinsing head (35, 36), it includes a tube (33, 34) to carry a  
rinsing product to said rinsing head, the rocker including at least one chute (37) to  
5 guide said tube from the vicinity of the rinsing head to the vicinity of the axis (X2).

18. Device according to one of claims 7 to 17, characterized in that the rocker  
includes means (24, 25) for pivoting the rocker about its axis.

10 19. Device according to one of claims 7 to 17, characterized in that the pivoting  
means include a rack (24) forming an arc about the axis (X2) and a pinion (25)  
engaging in the rack to drive the rocker in rotation about the axis.

20. Device according to one of claims 7 to 19, characterized in that the pivoting  
15 means comprise a belt or a cable or screw/nut device.